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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/659,777	09/10/2003	Henry Petteri Haverinen	KOLS.047PA	4888

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Hollingsworth & Funk, LLC
Suite 125
8009 34th Avenue South
Minneapolis, MN 55425

EXAMINER

AJAYI, JOEL

ART UNIT	PAPER NUMBER
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2617

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/659,777	Applicant(s) HAVERINEN, HENRY PETTERI	
	Examiner JOEL AJAYI	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3-5, 8-17, 19, 20, 24, 25 are rejected under 35 U.S.C. 102(e) as being unpatentable over **Chiou et al. (U.S. Patent Number: 6,473,413)**.

Consider **claim 1**; Chiou discloses a method for performing handover of a wireless terminal in a telecommunication system, in which a terminal (mobile station) is provided with a connection to a first access device (access point A), from which a tunnel is arranged to a corresponding host (home agent/router) for data transmission of the terminal (column 3, lines 47-56), and wherein a tunneling IP address (an IP address allocated for data transmission) is allocated in the first access device for a tunnel to be formed for the data transmission of the terminal (IP address of the AP A for the mobile station), to which tunneling IP address the tunnel is bound (column 4, lines 17-20), the method comprising: transferring (handoff) at least the tunneling IP address from the first access device to a second access device (access point B) in response to detecting a need to change the connection of the terminal (roaming) to be carried out by the second access device (column 4, lines 13-20); determining a binding (re-association procedure) in the second access device between the tunneling IP address and a network interface of the second access device (column 4, lines 13-20), and updating the information concerning the

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new binding between the network interface of the second access device and the tunneling IP address for at least one network node (foreign agent/router) in the system (column 3, line 66 – column 4, line 22).

Consider **claims 3, 17, 20**; Chiou discloses transferring data between the terminal and the corresponding host using the binding configured to the second access device after updating (communication continues through the foreign agent and the WLAN) (column 4, lines 7-21).

Consider **claims 4, 11, 25**; Chiou discloses that the network node is a router (foreign agent) in a local network (column 3, line 66 – column 4, line 12).

Consider **claims 5, 12, 14**; Chiou discloses binding between a MAC address of the network interface and the tunnelling IP address (column 3, lines 47-56; column 4, lines 13-20).

Consider **claims 8, 24**; Chiou discloses that the first access device and the second access device are access points of a wireless local network connected to one another through a wired local network (802.11 provides flexibility in working with different wired and wireless systems) (column 4, lines 13-20).

Consider **claim 9**; Chiou discloses a telecommunication system comprising at least a first access device (access point A), a second access device (access point B) and a terminal (mobile station), in which system the first access device is configured to provide the terminal with a connection (column 3, lines 47-56), the first access device is configured to allocate a tunnelling IP address for the tunnel to be formed for the data transmission of the terminal (IP address of the AP A for the mobile station), to which tunnelling IP address the tunnel is bound (column 4, lines 17-20), the first access device is configured to form a tunnel between a corresponding host (home agent/router) and the first access device for data transmission of the terminal (column 3,

lines 47-56), the first access device is configured to transfer at least the tunnelling IP address to a second access device in response to detecting a need to change the connection of the terminal to be carried out by the second access device (handoff) (column 4, lines 13-20); the second access device is configured to form a binding (re-association procedure) between the tunnelling IP address and the network interface of the second access device (column 4, lines 13-20), and the second access device is configured to update the information concerning the new binding between the network interface of the second access device and the tunnelling IP address for at least one network node (foreign agent/router) in the system (column 3, line 66 – column 4, line 22).

Consider **claim 10**; Chiou discloses that the transmission of data between the terminal and the corresponding host (foreign agent/router) after updating is configured in the telecommunication system using the binding (re-association procedure) configured to the second access device (column 3, line 66 – column 4, line 22).

Consider **claim 13**; Chiou discloses an access device for a telecommunication network, wherein the access device is configured to provide a terminal with a connection, the access device is configured to allocate a tunnelling IP address (IP address of the AP A for the mobile station) for the tunnel to be formed for the data transmission of the terminal (column 4, lines 17-20), to which tunnelling IP address the tunnel is bound the access device is configured to form a tunnel between a corresponding host (home agent/router) and an access device for data transmission of the terminal (column 3, lines 47-56), and the access device is configured to send at least said tunnelling IP address to a second access device in response to detecting a need to

change the connection of the terminal to be implemented by the second access device (column 4, lines 13-20).

Consider **claim 15**; Chiou discloses that the access device is configured to change the binding of the tunnelling IP address to temporarily denote the network interface of the second access device (re-association) (column 4, lines 13-20).

Consider **claim 16**; Chiou discloses an access device for a telecommunication network comprising means for providing a terminal with a connection and means for forming a tunnel between a corresponding host (home agent/router) and an access device for data transmission of the terminal (column 3, lines 47-56), wherein the access device is configured to receive at least a tunnelling IP address allocated for a tunnel for the data transmission of the terminal in response to detecting a need to change the connection of the terminal (roaming) to be implemented by the access device (column 4, lines 13-20), the access device is configured to form a binding (re-association) between the tunnelling IP address and the network interface, and the access device is configured to update the information concerning the new binding between the network interface and the tunnelling IP address to at least one network node (foreign agent/router) included in the system (column 3, line 66 – column 4, line 22).

Consider **claim 19**; Chiou discloses a communication apparatus comprising a processor and memory, wherein the apparatus is configured to form a tunnel between a corresponding host and an apparatus for data transmission of a terminal (column 3, lines 47-56), the apparatus is configured to receive at least a tunneling IP address allocated for a tunnel for the data transmission of the terminal in response to detecting a need to change the connection of the terminal (roaming) to be implemented by the apparatus (column 4, lines 13-20), the apparatus is

configured to form a binding (re-association) between the tunneling IP address and the network interface (column 4, lines 13-20), and the apparatus is configured to update the information concerning the new binding between the network interface and the tunneling IP address to at least one network node (foreign agent/router) included in the system (column 3, line 66 – column 4, line 22).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Chiou et al. (U.S. Patent Number: 6,473,413)** in view of **Perras (U.S. Patent Application Number: 2002/0141369)**.

Consider **claim 2**; Chiou discloses that the IP address used in the data transmission of the terminal and the tunnelling IP address for the tunnel to be formed for the data transmission of the terminal that is used as an end point of the tunnel transferring data of the terminal are allocated in the first access device to the terminal (column 4, lines 17-20), the tunnel determined by the tunnelling attributes is bound in the first access device to the tunnelling IP address, the tunnel, whose end points include the tunnelling IP address and the IP address of the corresponding host, is formed and thereafter the data transmission to the tunnelling IP address is transferred to a network interface of the first access device (column 3, lines 47-56; column 4, lines 17-20).

Exept: at least an IP address of the corresponding host and the tunnelling IP address allocated to the terminal in the first access device, are determined in an authentication server as a part of the authentication of the terminal before arranging the tunnel to the corresponding host, the tunnelling attributes are transferred to the first access device in response to a successful authentication.

In an analogous art, Perras discloses that at least an IP address of the corresponding host and the tunnelling IP address allocated to the terminal in the first access device, are determined in an authentication server (paragraph 42; paragraph 44, lines 1-7; paragraph 49) as a part of the authentication of the terminal before arranging the tunnel to the corresponding host (paragraph

52), the tunnelling attributes are transferred to the first access device in response to a successful authentication (paragraph 42; paragraph 44, lines 1-7; paragraph 53).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Chiou by including an authentication process, as taught by Perras, for the purpose of performing enhanced mobility management for mobile stations.

Claims 6, 7, 18, 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Chiou et al. (U.S. Patent Number: 6,473,413)** in view of **Johansson et al. (U.S. Patent Application Number: 2002/0080752)**.

Consider **claims 6, 22**; Chiou discloses the claimed invention except: the information concerning the new binding is sent to at least one network node connected to the first access device and to the second access device to the routing table thereof using a Neighbour Discovery protocol.

In an analogous art, Johansson discloses that the information concerning the new binding is sent to at least one network node connected to the first access device and to the second access device to the routing table thereof using a Neighbour Discovery protocol (neighbor advertisement) (paragraph 18; paragraph 79, lines 1-6).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Chiou by including neighbor advertisement, as taught by Johansson, for the purpose of optimizing routing techniques.

Consider **claims 7, 18, 21, 23**; Chiou discloses that the information concerning the new binding is sent to at least one network node connected to the first access device and to the second

access device to an ARP table (Address Resolution Protocol) thereof using an ARP protocol (paragraph 79, lines 1-6).

Conclusion

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

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P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joel Ajayi whose telephone number is (571) 270-1091. The Examiner can normally be reached on Monday-Friday from 7:30am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Lester Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

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system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Joel Ajayi

/Lester Kincaid/
Supervisory Patent Examiner, Art Unit 2617